

**TRANSMITTAL OF APPEAL BRIEF**Docket No.
H1139.0107

In re Application of: Katsumi Tomioka

Application No.
10/038,545-Conf. #7121Filing Date
October 24, 2001Examiner
D. J. LeeGroup Art Unit
2633Invention: OPTICAL SUBSCRIBER SYSTEM AND TRANSMISSION LINE DISTANCE
MONITORING METHOD**TO THE COMMISSIONER OF PATENTS:**Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal
filed: May 8, 2006The fee for filing this Appeal Brief is \$ 500.00☒ Large Entity ☐ Small Entity☐ A petition for extension of time is also enclosed.

The fee for the extension of time is _____

☐ A check in the amount of _____ is enclosed.☐ Charge the amount of the fee to Deposit Account No. 50-2215
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credit any overpayment to Deposit Account No. 50-2215

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Dated: July 10, 2006

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Dated: July 10, 2006Signature: Hua (Helene) Gao
(Hua (Helene) Gao)

FEE TRANSMITTAL

For FY 2006

<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Examiner Name	D. J. Lee
		Art Unit	2633
TOTAL AMOUNT OF PAYMENT	(\$) 500.00	Attorney Docket No.	H1139.0107

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

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FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES							
Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES		Small Entity
Fee Description	Fee (\$)	Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)** **Multiple Dependent Claims**
 _____ - = _____ x _____ = _____ **Fee (\$)** **Fee Paid (\$)**
 HP = highest number of total claims paid for, if greater than 20.

Indep. Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**
 _____ - = _____ x _____ = _____
 HP = highest number of independent claims paid for, if greater than 3.


3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).


<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____ - 100 = _____	_____ / 50 _____	(round up to a whole number) x _____	= _____	

4. OTHER FEE(S)

4. OTHER FEE(S)		Fees Paid (\$)
Non-English Specification, \$130 fee (no small entity discount)		
Other (e.g., late filing surcharge): 1402 Filing a brief in support of an appeal		500.00

SUBMITTED BY			
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		Date	July 10, 2006

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(Hua (Helena) Gao)

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Docket No.: H1139.0107
(PATENT)

Dated: July 10, 2006

Signature: _____

(Hua (Heleney) Gao)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Katsumi Tomioka

Application No.: 10/038,545

Confirmation No.: 7121

Filed: October 24, 2001

Art Unit: 2633

For: OPTICAL SUBSCRIBER SYSTEM AND
TRANSMISSION LINE DISTANCE
MONITORING METHOD

Examiner: D. J. Lee

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under 37 C.F.R. § 41.37(a), this Appeal Brief is filed within two months of the Notice of Appeal filed in this case on May 8, 2006, and is in furtherance of said Notice of Appeal.

The fees required under 37 C.F.R. § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This Appeal Brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

- I. Real Party In Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments

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- V. Summary of Claimed Subject Matter
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Argument
- VIII. Claims
- IX. Evidence
- X. Related Proceedings
- XI. Conclusion
- Appendix A Pending Claims

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is NEC Corporation.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are twelve (12) claims pending in the subject patent application.

B. Current Status of Claims

- 1. Claims canceled: none;
- 2. Claims withdrawn from consideration but not canceled: none;
- 3. Claims pending: claims 1-12;
- 4. Claims allowed: none; and
- 5. Claims rejected: claims 1-12.

C. Claims On Appeal

The claims on appeal are claims 1 to 12.

IV. STATUS OF AMENDMENTS

Applicant filed a *Request for Reconsideration* on March 29, 2006 in response to the Final Office Action dated February 8, 2006 (the "Final Office Action"). The *Request* was considered by the Examiner as indicated in the April 12, 2006 Advisory Action, but was deemed not persuasive.

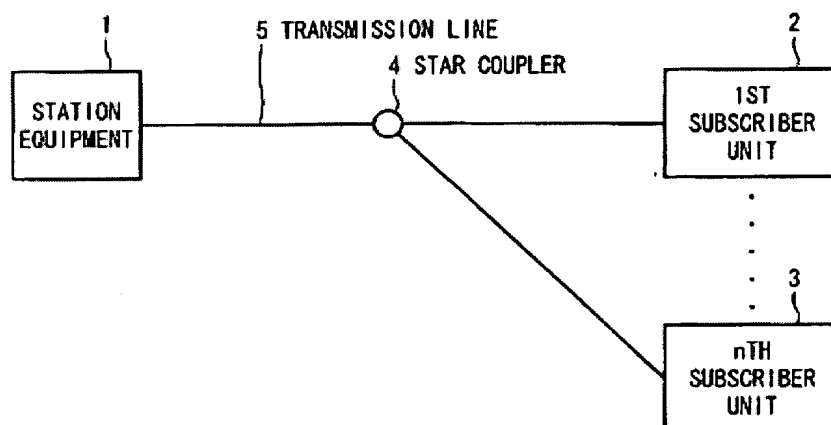
The claims attached herein as Appendix A incorporate the most recent amendments, that is, those indicated in the *Amendment in Response to Non-Final Office Action* filed by Applicant on November 17, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following concise explanation of the claimed subject matter makes reference to exemplary portions of the disclosure that describe illustrative embodiments of the claimed invention. However, the scope of the claims is not limited by the disclosed embodiments or the reference numbers and specification citations listed in this Section, which are only listed by way of example.

The optical subscriber system as discussed in the present invention is generally illustrated in Figure 1 of the subject application, which is reproduced herein below for the convenient reference of the Board:

FIG. 1



As is shown above, the optical subscriber system has a station equipment 1 and a plurality of subscriber units 2, 3. A transmission line 5 is used for transmitting trailing signals from the station equipment 1 to the subscriber units 2, 3 and transmitting leading signals from the subscriber units 2, 3 to the station equipment 1. A star coupler 4 is used to branch trailing signals and combine leading signals. (See, *e.g.*, page 10, lines 1-4 and page 11, lines 7-14 of the specification; Fig. 1.)

Independent claim 1 is directed to an optical subscriber system and requires its station equipment 1 to have a transmission line distance monitor/processor unit 10. The monitor/processor unit 10 can send a distance measuring control signal 23 to each of the subscriber units 2, 3 (see, *e.g.*, page 12, lines 16-24; and Fig. 2). Based on a distance measuring signal 25 returned from each of the subscriber units 2, 3, the distance monitor/processor unit 10 measures the transmission line distance between the station equipment 1 and each of the subscriber units 2, 3 (see, *e.g.*, page 12, line 25 to page 13, line 11; and Fig. 2). As is required in independent claim 1, the distance monitor/processor unit 10 then judges whether the measured transmission line distance is larger or smaller than a predetermined reference value (see, *e.g.*, page 13, lines 12-16; and Fig. 2). (See also *e.g.*, page 10, lines 18-25.)

Independent claim 5 is directed to a method for monitoring the transmission line distance between the station equipment 1 and each of the subscriber units 2, 3 in an optical subscriber system. Claim 5 requires sending a distance measuring control signal 23 from the station equipment 1 to each of the subscriber units 2, 3 (see, *e.g.*, page 12, lines 16-24; and Fig. 2). Based on a distance measuring signal 25 returned from each of the subscriber units 2, 3, the transmission line distance is then measured (see, *e.g.*, page 12, line 25 to page 13, line 11; and Fig. 2). Independent claim 5 also requires judging whether the transmission line distance is larger or smaller than a predetermined reference value (see, *e.g.*, page 13, lines 12-16; and Fig. 2). (See also, *e.g.*, page 10, lines 21-25; page 11, lines 13-15 and lines 16-19.)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Final Office Action rejected claims 1 to 12 under 35 U.S.C. § 103(a) over U.S. Patent No. 6,563,613 to Tochio in view of U.S. Patent 5,930,018 to Effenberger.

VII. ARGUMENT

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2142. Both the teaching or suggestion to make the proposed combination, and the reasonable expectation of success, must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See also MPEP §2143.

Further, the fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." *Id.* at 682. See also MPEP §2143.01.

As such, a prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). See MPEP §2141.02.

Appellant respectfully submits that the Final Office Action has failed to show that the cited references teach or suggest the above-noted claim limitations of independent claim 1 or 5.

Independent claims 1 and 5 each require judging whether the transmission line distance between the station equipment and each subscriber unit is larger or smaller than a predetermined reference value.

The Examiner acknowledged that "Tochio does not specifically disclose that the transmission distances are compared to a predetermined reference value in order to determine whether it is smaller or larger" (page 2, third line from the bottom of the Final Office Action). The Examiner then cited Effenberger for its teaching of "order[ing] the subscriber units in ascending order" and asserted that "the reference value [in Effenberger] would be the previously measured value that is used in comparison to sort the units in ascending order" (page 3, lines 3-6 of the Final Office Action). Applicant respectfully disagrees that the previously measured values in Effenberger read on the claimed "predetermined reference value."

Effenberger is directed to a method of allocating communications between an optical line termination ("OLT") device and a plurality of optical network units ("ONUs"). Effenberger teaches measuring the time necessary to transmit information to each ONU in order to determine which ONU is the closest, which ONU is farthest away and the respective distances of the intermediate ONUs (see column 2, lines 45-49). The ONU controller also lists ONUs in ascending order from nearest to farthest and requests communications from the nearest ONU first and then the next nearest ONU (see column 2, lines 53-57). The information returned by ONUs is in ascending order (see column 3, lines 14 -15).

Effenberger however does not specifically disclose how it performs its sorting of ONUs, much less teach one skilled in the art to use a predetermined reference value as required in claims 1 and 5.

Because Effenberger is completely silent with respect to the use of a predetermined reference value, it can only be presumed, as was done in the Final Office Action, that in order to sort the measured distances, Effenberger compares the

measured distances to each other. Indeed, the Examiner in his *Response to Arguments*, states that “the reference value [in Effenberger] would be the value that is used in comparison to the **measured** value when sorting the units” (page 5, lines 12-13 of the Final Office Action). The Examiner assumes that “[w]hen sorting the units ONU₁ to ONU₄ (step 304 of fig. 2 [sic]), the controller takes the distance of a previously **measured** ONU (for example, ONU₁) and compares it to the unit in question (for example, ONU₂)” (page 5, lines 13-16 of Final Office Action).

While the applicant does not challenge the Examiner’s assumption with respect to the sorting operation in Effenberger, applicant strongly disagrees with the Examiner’s characterization of Effenberger’s **measured** value (*e.g.*, previously measured distance of ONU₁) to be a predetermined reference value as required in independent claims 1 and 5.

Independent claims 1 and 5 each explicitly require that the measured values are compared to a predetermined reference value. In contrast, all the distances of ONU₁ to ONU₄ in Effenberger are **measured**, and none of them are determined beforehand (*i.e.*, predetermined). As a matter fact, in the above assumed example of sorting the units ONU₁ to ONU₄, the Examiner acknowledges that the distance of ONU₁ is **measured**.

Moreover, when Effenberger sorts the ONU’s, the values being compared are the same in nature and equally “measured values.” Effenberger does not teach that one of such “**measured** values” is or can be used as a “predetermined reference value.” It therefore can be only hindsight to designate one of such “**measured** values” as a “predetermined reference value,” as required in independent claims 1 and 5.

Furthermore, independent claims 1 and 5 require that each measured transmission line distance is compared with a predetermined reference value. Even if Effenberger can be interpreted to use the measured distance of ONU₁ as a reference value as suggested in the Office Action (page 5), which is strenuously contested,

Effenberger still does not read on the requirements of independent claims 1 and 5. If, as suggested in the Office Action, the **measured** distance value of ONU_1 is selected as being the claimed predetermined reference value for comparing with the other measured distances of units ONU_2 to ONU_4 , then the **measured** distance of ONU_1 is never compared with a predetermined reference value as claimed. Therefore, even if Effenberger is interpreted as stated in the Final Office Action, Effenberger does not disclose comparing each transmission line distance with a predetermined reference value, as required in independent claims 1 and 5.

In view of the above, applicant respectfully submits that Effenberger does not teach to compare a measured value with "a predetermined reference value" as required in independent claims 1 and 5. Therefore, the present invention as recited in independent claim 1 or 5 is not obvious over Tochio and Effenberger and is thus patentable. The dependent claims each are patentable for at least the same reasons as their respective base claims. Accordingly, applicant hereby respectfully requests that the Board reverse the above rejection.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A do include the amendments filed by applicant on November 17, 2005.

IX. EVIDENCE

No evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the Examiner is being submitted.

X. RELATED PROCEEDINGS


No related proceedings are referenced in Section II above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.

XI. CONCLUSION

In view of the above, applicant respectfully submits that all claims in the subject application are allowable based on the cited references. The Board of Patent Appeals and Interferences is hereby respectfully requested to reverse the rejection and pass the subject application to issuance.

Respectfully submitted,

Dated: July 10, 2006

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Appendix A: Pending Claims 1 - 12

PENDING CLAIMS

1. An optical subscriber system comprising: station equipment; a plurality of subscriber units; a transmission line for transmitting trailing signals from the station equipment to the plurality of subscriber units and transmitting leading signals from the plurality of subscriber units to the station equipment; and a star coupler for branching trailing signals and combining the leading signals,

the station equipment comprising a transmission line distance monitor/processor unit which sends a distance measuring control signal to each of the subscriber units, measures, based on a distance measuring signal returned from each of the subscriber units, the transmission line distance between the station equipment and each of the subscriber units, and judges whether the transmission line distance is larger or smaller than a predetermined reference value.

2. The optical subscriber system according to claim 1, wherein the station equipment further comprises a trailing signal multiplexer and a leading signal separator and functions to multiplex the distance measuring control signal, generated in the transmission line distance monitor/processor unit, in the trailing signal multiplexer to prepare a trailing signal, which is then sent to each of the subscriber units, and to separate, from a leading signal returned from each of the subscriber units, a distance measuring signal, in the leading signal separator, which is then sent to the transmission line distance monitor/processor unit.

3. The optical subscriber system according to claim 2, wherein the transmission line distance monitor/processor unit comprises a distance measuring control signal generator, a distance measuring section, and a distance judgment section, and

the distance measuring control signal generated in the distance measuring control signal generator is multiplexed in the trailing signal multiplexer to prepare a

trailing signal, which is then sent to each of the subscriber units, and a distance measuring signal is separated from a leading signal, returned from each of the subscriber units, in the leading signal separator to prepare a distance measuring signal that is then input into the distance measuring section which sends a distance signal to the distance judgment section for judging whether the transmission line distance is larger or smaller than the predetermined reference value.

4. The optical subscriber system according to claim 1, which, when the transmission line distance is larger than the reference value, issues an alarm.

5. A method for monitoring the transmission line distance between station equipment and each of a plurality of subscriber units in an optical subscriber system comprising: station equipment; a plurality of subscriber units; a transmission line for transmitting trailing signals from the station equipment to the plurality of subscriber units and transmitting leading signals from the plurality of subscriber units to the station equipment; and a star coupler for branching trailing signals and combining the leading signals, said method comprising:

 sending a distance measuring control signal from the station equipment to each of the subscriber units;

 measuring the transmission line distance based on a distance measuring signal returned from each of the subscriber units; and

 judging whether the transmission line distance is larger or smaller than a predetermined reference value.

6. The method according to claim 5, wherein
 the station equipment comprises: a transmission line distance monitor/processor unit comprising a distance measuring control signal generator, a distance measuring section, and a distance judgment section; a trailing signal multiplexer; and a leading signal separator, and

a distance measuring control signal generated in the distance measuring control signal generator is multiplexed in the trailing signal multiplexer to prepare a trailing signal which is then sent to each of the subscriber units.

7. The method according to claim 6, wherein

a distance measuring signal is separated from a leading signal, returned from each of the subscriber units, in the leading signal separator to prepare a distance measuring signal that is then input into the distance measuring section which sends a distance signal to the distance judgment section for judging whether the transmission line distance is larger or smaller than the predetermined reference value.

8. The method according to claim 5, wherein, when the transmission line distance is larger than the reference value, an alarm is issued.

9. The optical subscriber system according to claim 2, which, when the transmission line distance is larger than the reference value, issues an alarm.

10. The optical subscriber system according to claim 3 which, when the transmission line distance is larger than the reference value, issues an alarm.

11. The method according to claim 6, wherein the transmission line distance is larger than the reference value, an alarm is issued.

12. The method according to claim 7, wherein, when the transmission line distance is larger than the reference value, an alarm is issued.